# 1999 Transportation Standards

Chapter 12.05 CCC Adopted May 25, 1999



Department of Public Works

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# Chapter 12.05 CCC

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# **EXHIBIT "A"**

# Chapter 12.05 CCC TRANSPORTATION STANDARDS

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### **Article I. Overview**

# 12.05.010 Purpose

It is the purpose of this chapter to establish minimum standards for public and private transportation facilities for vehicles, public transit, pedestrians, and bicycles, hereinafter constructed or improved as a condition of county approval of a development, or a transportation project constructed by the county. These standards are intended to preserve our community's quality of life and to minimize total costs over the life of the transportation facility.

# 12.05.020 Relationship to Comprehensive Plan

- I. Clark County is required by RCW 36.70A.040 (3) to ensure that any development regulations adopted subsequent to the Comprehensive Plan "...are consistent with and implement the Comprehensive Plan..."
- II. This chapter is consistent with and implements the goals and policies listed in the Comprehensive Growth Management Plan of Clark County as hereafter amended by subarea plans such as West Felida Circulation Plan and the Salmon Creek / Fairgrounds Regional Road Plan. Particular attention has been paid to Chapter 3: Transportation Element.
- III. Interpretations of this chapter shall be consistent with the effective Clark County Arterial Atlas. The Clark County Arterial Atlas identifies all arterials and collectors and specifies the design of these facilities in general terms.
- IV. This chapter implements the Trails & Bikeways System Plan through the Arterial Atlas. The atlas requires pedestrian and/or bicycle facilities to be included as part of certain arterial and collector designs where the Trails & Bikeways System Plan indicates such facilities are to be located. This chapter requires the inclusion of urban trails and bikeways in any frontage improvements constructed in accordance with the Arterial Atlas.

## 12.05.030 Definitions

- "Access Roads" means any of the urban access roads as defined in Table 12.05.120-3 or any of the rural access roads as defined in Table 12.05.120-4. This term is used to differentiate Access Roads from Arterials and Collectors.
- 2. "Accessway" means a public facility shared by pedestrians and bicyclists.
- 3. "ADT" means average daily traffic.
- 4. "All-weather driving surface" means any road or driveway surface that when reasonably maintained will provide all-weather driving capabilities for fire and other emergency vehicle apparatus.

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- 5. "Arterial" means any Urban Parkway Arterial, Urban Principal Arterial, or Urban Minor Arterial, as defined in Table 12.05.120-1. This term is used to differentiate Arterials from Collectors and Access Roads.
- 6. "Arterial Atlas" means the current Clark County Arterial Atlas as adopted by the Board of County Commissioners, or hereafter amended.
- 7. "Bike Lane" means the bicycle-only portion of a public street or road.
- 8. "Block" shall mean an area of land whose boundaries are defined by public or private streets, excluding alleys.
- 9. "Block Length" shall mean the distance between intersections with other public or private roads as measured along the near-side right-of-way line.
- "Block Perimeter" shall mean the perimeter of a block as measured along the nearside right-of-way lines of public streets or accessway easements, but exclusive of driveways.
- 11. "Building permit" means the permit issued by the County to an applicant for building a structure.
- "Collector" means Urban Collector as defined in Table 12.05.120-1, and Rural Major Collector and Rural Minor Collector as defined in Table 12.05.120-2. This term is used to differentiate Collectors from Arterials and Access Roads.
- 13. "Commercial access" means an on-site road providing access to properties zoned for business, commercial, manufacturing or industrial uses.
- 14. "County" means Clark County, a municipal corporation within the State of Washington.
- 15. "County Engineer" means the County Engineer of the Clark County Department of Public Works, or designee.
- 16. "County road" means a road opened to and maintained for public travel by Clark County.
- 17. "Dedication" means a conveyance of right-of-way to the county.
- 18. "Developer" or "Applicant" means the property owner or designee.
- 19. "Development" means any subdivision, short plat, and site plan application, conditional use permit, Provided that for the purposes of CCC 12.05.210 and .250, development shall also include applications for building permit or other applications for access to a public road.
- 20. "Development application" means a plan describing a proposed development.
- 21. "Director" means the Director of Clark County Department of Public Works, or designee.
- 22. "Driveway" means a privately maintained access to residential, commercial or industrial properties.

- 23. "Easement" means an interest in land owned by another that entitles its holder to a specific limited use or enjoyment.
- 24. "Engineer" means an individual licensed by the state of Washington to practice professional engineering who has been retained by the county or others to design roadway improvements, including utilities.
- 25. "Eyebrow" means a partial bulb located adjacent to the serving road that provides access to parcels and can serve as a vehicle turnaround.
- 26. "Frontage road" means a public or private road providing vehicular access to the boundary of a parcel of real property proposed for development.
- 27. "Functional classification system" means the adopted hierarchy of roadway use as it relates to volume, speed, regional, area-wide and local characteristics
- 28. "Grading permit" means the permit required under Chapter 33 of the Uniform Building Code.
- 29. "Half road" or "Partial road" means any public or private road right-of-way or easement which is less than the full required width specified in this chapter, and which is established so as to permit additional right-of-way or easement to be provided at a later date to complete the full-width roadway.
- 30. "Hardscape" means an approved, decorative hard or impervious surface, such as textured concrete, brick, or pavers for use by pedestrians, which may be used to widen sidewalks. Asphalt or plain finished concrete is not an approved hardscape finish.
- 31. "Infill development" means a development qualifying as infill under Title 18 of this code.
- 32. "Major Activity Center of Regional Impact" means an area with a full range of residential, commercial, and industrial uses, according to the definition in the Clark County Comprehensive Plan.
- 33. "Median" shall mean that portion of a divided roadway separating the traveled way of traffic moving in opposing directions.
- 34. "Modeling" shall mean a computerized projection of future traffic volumes and other traffic characteristics, based on land use designations.
- 35. "Potential number of lots" means the maximum number of lots allowed by current or proposed zoning which may be served by a road or driveway or extension thereof.
- 36. "Private road" means a road not maintained by Clark County, the Washington State Department of Transportation, or other governmental jurisdiction.
- 37. "Public road" means a road maintained by Clark County, the Washington State Department of Transportation, or other governmental jurisdiction.
- 38. "Right-of-way" means property held by the county for existing or future public roads or other public improvements.

- 39. "Roadway" means the improved portion of an easement or right-of-way, excluding curbs, sidewalks and ditches. Road, roadway and street will be considered interchangeable terms for the purpose of these standards.
- 40. "Rural area" means land not located within an urban area as designated in the Clark County Comprehensive Growth Management Plan.
- 41. "Rural Center" shall mean an area identified as such on the *Rural and Natural Resources Lands* map, as amended, such as Amboy, Brush Prairie, Chelatchie Prairie, Dollar's Corner, Hockinson, and Meadow Glade.
- 42. "Rural road" means a road located within the rural area of Clark County.
- 43. "Sidewalk" means a pedestrian-only facility within a public right-of-way or public easement containing a street.
- 44. "Special provisions" means road construction requirements peculiar to a specific project and which are not otherwise thoroughly or satisfactorily detailed and set forth in the standard specifications.
- 45. "Standard plans" means those typical sections and details adopted for road construction in Section 12.05.740 CCC.
- 46. "Standard specifications" means those specifications adopted for road construction in Section 12.05.770 CCC.
- 47. "Structure" see Section 18.104.715.
- 48. "Substantial completion" means that all public or private facilities are constructed, functional and operational, even though they may not be fully completed nor provisionally accepted, including sewer and water systems, storm drainage facilities and street improvements (including construction of the initial lift of asphalt or other approved surfacing), but not necessarily including sidewalks, or electrical, gas, telephone or cable services; and that the project is in full compliance with the Erosion Control Ordinance.
- 49. "Traffic calming devices" shall mean physical devices within the roadway designed to manage traffic speeds or which disperse traffic such as speed bumps/humps and traffic circles.
- 50. "Traffic calming measures" shall mean street design features intended to manage traffic speeds or which disperse traffic such as "T" intersection, street trees, curvilinear streets, or entry treatments.
- 51. "Transportation Impact Study" means a study done by a licensed engineer in accordance with Section 12.40.
- 52. "Uniform Building Code" means the published Uniform Building Code as adopted by Clark County.
- 53. "Urban area" means land located within an urban area or growth boundary as designated in the Clark County Comprehensive Growth Management Plan
- 54. "Urban road" means a road located within an urban area of Clark County.

- 55. "Walkway" means a facility dedicated to the county for pedestrian use to or through a parcel for the use of the general public which is not generally adjacent to the roadway.
- 56. "Wildland urban interface/intermix (WUI)" means those geographic areas of the county shown as "wildland urban interface/intermix" areas on a map adopted by Section 15.13.030 CCC and as hereafter amended.

# 12.05.040 Functional Classifications—Purpose

The purpose of a functional classification system for county roads is to define varying levels and types of transportation infrastructure and to provide for the safe and efficient movement of people and goods, while preserving residential areas and maintaining the economic vitality of commercial and industrial areas. The system classifies transportation facilities as either urban or rural roads. Within urban roads, they are further divided into arterials, collectors, and access roads; within rural roads, they are divided into collectors and access roads.

Existing and proposed arterials and collectors are shown on the current Arterial Atlas as hereafter amended. The County's functional classification system for arterials is intended to be in compliance with the federal classification system.

## 12.05.050 Functional Classifications—Urban Roads

Urban roads are classified as outlined below:

### Arterials

### A. Parkway Arterial

"Parkway Arterial" (the Principal Arterial Parkway referred to in the Arterial Atlas), is the highest classification within the county's functional classification system. The purpose of this county road is to carry high volumes of traffic through the urban area and between major activity centers of regional impact. This class of road is of great importance in the regional transportation system as it carries a high proportion of the total urban area travel. Access is normally limited to intersections with other arterials. Direct land access is prohibited.

# B. **Principal Arterial**

"Principal Arterial" is the basic element of the County's road system. All other functional classifications supplement the Principal Arterial network. Access is generally limited to intersections with other arterials and collectors. Direct land access is minimal and controlled, but less restrictive than access from Parkway Arterial.

### C. Minor Arterial

"Minor Arterial" collects and distributes traffic from Principal Arterials to streets of lower classifications and may allow for traffic to directly access

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 destinations. They provide for movement within subareas of the county, whose boundaries are largely defined by Principal Arterial roadways. They serve through traffic and provide direct access for commercial, industrial, office and multifamily development but, generally, not for single-family residential properties.

### II. Collectors

### A. Urban Collector

"Urban Collector" provides for land access and traffic circulation within and between residential neighborhoods, and commercial and industrial areas. Direct access to adjacent land uses, however, is still subordinate to traffic movement. Access to abutting properties is controlled through the use of raised channelization, driveway spacing and pavement markings. Typically, collectors are not continuous for any great length, nor do they form a connected network by themselves. Parking is allowed only on two-lane Urban Collectors (Drawing 12) where bike lanes are not specified.

### III. Access Roads

## A. **Neighborhood Circulator**

"Neighborhood Circulator" serves to distribute traffic from collectors and provides direct access for abutting properties. Through trips are discouraged and parking is allowed. In general, these streets connect to Collectors.

### B. Local Residential Access

"Local Residential Access" streets provide direct access to adjoining properties within a neighborhood. Through trips are discouraged and parking is allowed. In general, these streets do not directly connect to Arterials or Collectors.

### C. Residential Loop

"Residential Loop" streets are a special category of Local Residential Access streets with outlets that begin and end on the same street or on different streets but orientated in such a way that they would only be used for access to residences on that loop. They are less than one thousand two hundred (1,200) feet in length. Through trips are discouraged and parking is allowed.

### D. Cul-de-sac

"Cul-de-sac" streets provide an outlet at one end only and are constructed with a turnaround at the other. They are a maximum of six hundred (600) feet in length. Parking is allowed.

### E. Short Cul-de-sac

"Short Cul-de-sac" streets have a two (2) foot narrower roadway than Cul-de-sacs. They are a maximum one hundred fifty (150) feet in length and serve no more than eighteen (18) dwelling units. Parking is allowed.

## F. Alley

"Alley" streets are a secondary access to the back side of lots. This allows streets at the front of properties not to be encumbered with driveways and is an alternative to frontage access. Parking is not allowed.

### G. Infill A Roadway

"Infill A Roadway" is a twenty (20) foot public or private roadway within a minimum twenty-five (25) foot easement used to serve up to eight (8) dwelling units in an infill development where full width roads are impractical to develop. Parking is not allowed.

### H. Infill B Private Roadway

"Infill B Private Roadway" is a twelve (12) foot roadway within a minimum twenty (20) foot private easement used to serve a maximum four (4) dwelling units where public roads are impractical to develop.

### I. Urban Industrial

"Urban Industrial" streets serve to distribute traffic from arterials and provide direct access to abutting industrial properties. Primary Industrial streets have three (3) or five (5) lanes. Secondary Industrial streets have two (2) lanes. Through trips are discouraged and parking is allowed.

### J. Fire Apparatus Access Road

Refer to Chapter 15.12 CCC.

### 12.05.060 Functional Classifications—Rural Roads

Following are the county rural road classifications as designated in the Arterial Atlas, as amended:

### I. Collectors

### A. Rural Major Collector

"Rural Major Collector" roads are rural extensions of urban Principal Arterials and some urban Minor Arterials. Their primary purpose is to link rural centers with larger towns nearby, and to state arterial routes. The provision of land access remains subordinate to providing for traffic movement. Parking is not allowed.

### B. Rural Minor Collector

"Rural Minor Collector" roads serve the remaining rural area. They connect local traffic to Rural Major Collectors and state arterial routes and may be rural extensions of Urban Minor Arterials or Urban Collectors.

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34 35 They are spaced so as to be accessible to all developed areas within the county. The provision of land access is given the same priority as the provision of traffic movement. Parking is not allowed.

#### II. **Access Roads**

#### Α. **Local Access**

"Local Access" roads provide access from parcels to the rural collector system. Parking is not allowed unless an extra eight (8) feet wide paved area is provided.

#### B. Loop

"Loop" roads are local access roads with outlets that begin and end on the same road. Parking is not allowed unless an extra eight (8) feet wide paved area is provided.

#### Cul-de-sac C.

"Cul-de-sac" roads are local access roads with an outlet at one end only and are constructed with a turnaround at the other end. Parking is not allowed unless an extra eight (8) feet wide paved area is provided.

#### D. Fire Apparatus Access Road

Refer to Chapter 15.12 CCC.

### 12.05.070 Scenic Routes

Scenic routes are roadways with unique scenic or historical features, officially designated by the Board of County Commissioners. Scenic routes seek to enhance, preserve and facilitate the enjoyment of those scenic or historical features unique to each route.

Scenic route design may allow reduced design speed and modified roadway and rightof-way widths to preserve naturally occurring scenic beauty unique to the location of the route. When possible, existing alignment and roadway sections shall be used. Special features, such as vehicle turnouts for vista areas or bicycle/pedestrian facilities, may be provided. Urban or Rural Collector standards shall be used for right-of-way and roadway sections. The Director may modify the standards to accommodate unique scenic or historic design considerations.

A traffic analysis to determine the impacts on arterials, collectors, and access roads shall be completed prior to designating a facility a scenic route.

Scenic routes are designated as such in the Arterial Atlas, as amended. The routes officially designated as scenic within Clark County are the Evergreen Highway and Lucia Falls Road.

# 12.05.080 Urban Reserve, Urban Holding Areas and Rural Centers

The following are special applications of the functional classifications. Chapter 12 of the Clark County Comprehensive Growth Management Plan lists additional transportation improvements required in specific geographic areas.

- I. New developments permitted outright within the Urban Holding and Urban Reserve Areas of the county shall meet rural road standards, except that the right-of-way for rural local access roads shall be a minimum of fifty-four (54) feet to allow a neighborhood circulator street.
- II. Conditional uses in the Urban Holding and Urban Reserve Areas that are urban in character shall meet urban road standards for frontage improvements and provide additional right-of-way as needed to meet urban road spacing requirements to ensure that the area can transition efficiently to anticipated urban uses.
- III. Where urban frontage improvements are required and the road to be improved has a rural classification, Table 12.05.080 shall be used to convert rural classifications to urban.

Table 12.05.080

Rural / Urban Classification Conversion

itulai / Orbail Classification Conversion						
Rural	converts	Urban				
Classification	to	Classification				
Rural Major Collector (R-2)	$\leftarrow \rightarrow$	Urban Minor Arterial: two lanes,				
		center turn lane and bike lanes				
		(M-2cb)				
Rural Minor Collector (RM-2)	$\leftarrow \rightarrow$	Urban Collector Arterial: two				
		lanes (C-2)				
Rural Local Access	$\leftarrow \rightarrow$	Urban Neighborhood Circulator				
Rural Loop	$\leftarrow \rightarrow$	Urban Local Residential Access				
Rural Cul-de-Sac <sup>1</sup>	$\leftarrow \rightarrow$	Urban Cul-de-Sac				

Note 1: No maximum length

IV New developments within Rural Centers shall meet rural road standards, PROVIDED that all public roads, and all non-residential private roads, shall be paved and constructed with detached sidewalks.

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# **Article II. Standards for A Development Review**

# 12.05.100 Transportation Impact Study

The requirements for a Transportation Impact Study are stated in Chapter 12.40 CCC.

### 12.05.110 Circulation Plan

# I. Purpose and Applicability

The purpose of this section is to ensure adequate cross-circulation in a manner which allows subsequent developments to meet these standards, and to provide a mechanism for integrating various streets into an efficient and safe transportation network.

Developments that are required to conduct a Transportation Impact Study or construct frontage improvements shall meet the requirements of this section.

## II. Information Requirements for a Circulation Plan

Developers shall submit a circulation plan which includes the subject site and all adjacent parcels. Proposed streets must be shown to the point of connection with the existing street system within 600 feet.

The circulation plan shall demonstrate feasibility with development of adacent properties, or may revise the off-site portion of prior approved plans. Circulation plans shall also be consistent with the Arterial Atlas, as amended.

A circulation plan shall be submitted at application. Draft circulation plans may be submitted at pre-application.

# A. Information Requirements for Developments in urban Area

Urban circulation plans shall be schematic in nature and to an engineering scale (e.g. 1"=100', 1"=200', 1"=400'). The plan should include sufficient offsite and onsite conditions to evaluate it against the review criteria. It shall include:

- 1. Proposed project boundary,
- 2. Existing and proposed streets, transit routes and facilities, and other pedestrian/ bicycle destinations within 600 feet of the project boundary,
- 3. Site access points for vehicles, pedestrians, bicycles, and transit, and
- 4. Sensitive lands (wetlands, shoreline, geologic hazard, floodplain, etc.), if they are contained in the county's information package.

 The circulation plan should be prepared on 8 1/2" x 11" or 11" x 17" or 24" x 36" format, and can be superimposed on the "Arterials, C-Tran Routes, Parks & Trails" and "Elevation Contours" page provided with the developer's GIS Packet. Additional explanation or an additional legend may be required to adequately show proposed on-site facilities.

### B. Information Requirements for Developments in Rural Area

Rural circulation plans shall be schematic in nature and based on the appropriate quarter-section map. The plan should include sufficient onsite and off-site conditions to evaluate it against the review criteria. Rural circulation plans shall include:

- 1. Proposed project boundary
- 2. How the project site connects to the existing street system
- 3. Any arterials identified in the Arterials Atlas, as amended, within 800 feet of the site.

### III. Review Criteria for a Urban Circulation Plan

### A. Cross-circulation

Cross-circulation shall be provided in a manner, where possible, that will allow subsequent developments to meet these standards.

- 1. Block Length. Block lengths shall be between 100 to 800 feet, PROVIDED that where a block is partially defined by an arterial or industrial road the block lengths along the arterial shall be no less than the minimum full access intersection spacing specified in Tables 12.05.120-1 through 12.05.120-5.
- 2. Block Perimeter. The block perimeter shall not exceed 3,200 feet unless accessway(s) for pedestrian or bicycle circulation are provided or where topographic or other physical constraints preclude achieving this standard.

# B. Access Street System

The access street system shall:

- 1. Provide convenient parcel access to and from adjacent arterials and/or collectors,
- 2. Be designed to discourage external traffic from short-cutting,
- 3. Be designed to discourage vehicular speeds in excess of legal speed limits,
- 4. Be designed for convenient circulation of internal traffic without reliance on the arterial systems,
- 5. Support direct travel by pedestrians, bicyclists, and transit users, and.

6. Discourage unnecessary streets and hard surfaces.

### IV. Review Criteria for Rural Circulation Plan

Rural circulation plan shall show how the development connects to arterials, within eight-hundred (800) feet of the site, that are defined in the Arterial Atlas.

# 12.05.120 Transportation Design Criteria

The design criteria set out in Tables 12.05.120-1, 12.05.120-2, 12.05.120-3, 12.05.120-4 and 12.05.120-5, attached to the ordinance codified in this chapter, are adopted as a portion of the Clark County standard specifications. Such criteria are applicable to roads located within and adjacent to a development. These criteria are intended for normal conditions. The County Engineer may require higher standards for unusual site conditions.

# TABLE 12.05.120-1 DESIGN CRITERIA FOR URBAN ARTERIALS AND URBAN COLLECTOR

			Arterials		Collector
		Parkway	Principal	Minor	Urban
Design (	Criteria	Arterial	Arterial	Arterial	Collector
_		Drwg 1-1a	Dwgs 2-5a	Dwgs 6-10	Dwgs 11-12
Maximum spacing		, and the second	2-5 miles	<2 miles	<2 miles
Minimum R/W (ft.)	2 lane	NA	NA	NA	60
,	3 lanes w/bike	NA	80	80	70
	4 lane	NA	NA	80	NA
	4 lane w/CLT	90	90	90	NA
	4 lane w/bike	NA	NA	90	NA
	4 lane w/CLT & bike	100	100	100	NA
	6 lane w/CLT	110	110	NA	NA
	6 lane w/CLT & bike	120	120	NA	NA
Lane Width (ft.)	2 lane	NA	NA	NA	11
	3 lanes w/bike	NA	12	12	12
	4 lane	NA	NA	12 -13	NA
	4 lane w/CLT	11-12	11-12	11-12	NA
	4 lane w/bike	NA	NA	12	NA
	4 land w/CLT & bike	11-12	11-12	11-12	NA
	6 lane	11-12	11-12	NA	NA
Median Width (ft.)1	3 lanes w/bike	NA	12	12	12
	4 lane	16	14	14	NA
	6 lane	14	14	NA	NA
Shoulder/Parking (ft.) <sup>2</sup>	2 lane	8	NA	NA	NA
Roadway Width (ft.)	2 lane	NA	NA	44	38
	3 lanes w/bike	NA	46	46	46
	4 lane	NA	NA	50	NA
	4 lane w/CLT	NA	60	60	NA
	4 lane w/bike	NA	NA To	58	NA
	4 lane w/CLT & bike	80	70	70	NA
	6 lane	NA 00	NA 00	NA NA	NA NA
	6 lane w/CLT	82	82	NA	NA
Danima Carand (MDII)	6 lane w/CLT & bike	92	92	NA 40	NA 25
Design Speed (MPH)	FLA	50	50	40	35
Maximum Grade (%) <sup>3</sup>	Flat	6	6	6	7
	Rolling	7	7	8	9
Minimum Contolina	Mountainous	9	9	10	10
Minimum Centerline	Flat	1,145	1,145	955 560	575
Radius (ft.)	Rolling	715 410	715	560	440
Design Volume (ADT)	Mountainous	410 NA	410	410	330
Design Volume (ADT)	2 lane		NA 16.000	12,000	12,000
	3 lane w/bike 4 lane	NA NA	16,000 NA	16,000 18,000	16,000 NA
	4 lane w/CLT	24,000	24,000	24,000	NA NA
	4 lane w/CL1 6 lane	40,000	40,000	24,000 NA	NA NA
Min. Full Access Intersection Spacing (ft.)		1,000	600	500	275
Sidewalk (both sides)	onon spacing (II.)	1,000 12' trail	6'	6'	6'
		iz liali	_	18" C&G	18" C&G
Curb & Gutter required	urb Datura Dadii /ft \ 4	35	18" C&G		
Minimum Intersection Cu			35	35	35
Minimum R/W radius ch	oras foot wide or greater, are re	25	25	25	25

Medians fourteen (14) foot wide or greater are raised, 12' medians may include turn lanes.

<sup>&</sup>lt;sup>2</sup> Shoulders may be widened for short distances where guardrail is planned. Parking limited to Urban Collectors (2 lanes).

<sup>&</sup>lt;sup>3</sup> May be steeper for short distances where permitted by AASHTO Guidelines.

<sup>&</sup>lt;sup>4</sup> Forty-five (45) foot radius will be required on roads where truck/transit will use, and there is only one lane of traffic.

# TABLE 12.05.120-2 DESIGN CRITERIA FOR RURAL COLLECTORS

	Maiar	Minor	
Danieus Ositasi	_	Major	_
Design Criteri	Collector	Collector	
		Drawing	Drawing
		23	24
Maximum spacing		<2 miles	<2 miles
Minimum R/W (ft.)	2 lane	60	60
Lane Width (ft.)	2 lane	12	12
Median Width (ft.)	2 lane	NA	NA
Shoulder/Parking (ft.)	2 lane	8	8
Roadway Width (ft.)		40	40
2 lane			
Design Speed (MPH)	Flat	50	50
	Rolling	40	40
Mour	ntainous	30	30
Maximum Grade (%)	Flat	6	6
	Rolling	8	8
Mour	ntainous	10	10
Minimum Centerline	Flat	955	575
Radius (ft.)	Rolling	560	440
Mour	ntainous	410	300
Design Volume (ADT)	2 lane	10,000+	5,000
Minimum Full Access	500	275	
Intersection Spacing (f			
Minimum Radii (ft.)		35	35
Minimum R/W radius of	chord	25	25

# TABLE 12.05.120-3 **DESIGN CRITERIA FOR URBAN ACCESS ROADS**

Docien	Neighborhood	Local Residential	Residential	Cul-de-Sac <sup>1</sup>	Short Cul-de-Sac <sup>2</sup>	Alloy 3
Design	Neighborhood Circulator					Alley 3
Criteria	00	Access	Loop	Drawing	Drawing	Drowing 10
	Drawing 13	Drawing 14	Drawing 15	15 & 28	16 & 29	Drawing 19
Minimum Right-of-Way (ft.)	54	46	46	46	42	26
Lane width (ft.)	2 lanes	1 lane	1 lane	1 lane	1 lane	1 lane
	10 ft. ea.	12 ft. ea.	10 ft. ea.	10 ft. ea.	10 ft. ea.	20 ft. ea.
Parking lane width (ft.)	8	8	8	8	7	N/A
one or both sides	both sides	both sides	both sides	both sides	both sides	N/A
Roadway width (ft.) <sup>5</sup>	36	28	26	26	24	20
Design Speed (MPH)	25	25	25	25	25	N/A
Maximum Grade (%)	15	15	18	18	18	18
Minimum centerline radius (ft.)	150	70 <sup>6</sup>	70 <sup>6</sup>	70 <sup>6</sup>	70 <sup>6</sup>	N/A
Maximum length (ft.) <sup>7</sup>	N/A	N/A	1,200	600	150	N/A
Design Volume (ADT)	3,000	1,500	1,000	NA	180	N/A
Maximum number of houses	300	150	100	NA	18	N/A
Sidewalks (both sides) (ft.)	5	5	5	5	5	N/A
Curb & Gutter <sup>8</sup>	18 in. C&G	18 in. C&G	18 in. C&G	18 in. C&G	18 in. C&G	N/A
Minimum intersection curb return radii (ft.)9	25	25	20	20	20	N/A
Min. Full Access Intersection spacing (ft.) <sup>10</sup>	150	100	100	100	100	100
Public/Private	Public	Public	Public	Public	Public	Public
Frontage access	Yes	Yes	Yes	Yes	Yes	N/A

<sup>&</sup>lt;sup>1</sup> Cul-de-sac minimum R/W radius is 50 ft. with a constructed 45 ft. radius-OR-minimum R/W radius is 40 ft. with constructed 35 gutter with thickened sidewalk construction in accordance with a standard drawing provided by the County Engineer.

Short Cul-de-sac minimum R/W is 35-ft. radius with a constructed 30-ft. radius.

Chapter 12.05 CCC **Requires Codification** 

<sup>&</sup>lt;sup>3</sup> Twenty foot unobstructed width.

<sup>&</sup>lt;sup>4</sup> Director of Public Works may approve the use of public Infill A for new subdivisions with design limitations or peculiar terrain or constructed with Portland cement concrete.

<sup>&</sup>lt;sup>5</sup> Neighborhood Circulator includes two eight-foot parking lanes.

Except for where the curve is between 80-110 degrees, a minimum 35-ft. radius may be used.

All stubbed public roads greater than 150 ft. serving four or more lots shall provide a 45-ft. minimum radius temporary turnarour turnaround.

<sup>&</sup>lt;sup>8</sup> Vertical curb and rolled curb also acceptable.

<sup>&</sup>lt;sup>9</sup> Intersections with arterials require 35-foot radii.

<sup>&</sup>lt;sup>10</sup> Ten (10) foot maximum off-set may be allowed.

## TABLE 12.05.120-4 DESIGN CRITERIA FOR RURAL ACCESS ROADS

Design Criteria	Private	Local		
	Road <sup>1</sup> Drawing 27	Access Drawing 25	Loop Road Drawing 26	Cul-de-sac <sup>2</sup> Drawings 26 & 30
Minimum R/W (ft.)	30' Easement	50 <sup>3</sup>	46	42
Lane Width (ft.)	two 10' lanes	two 10' lanes	two 10' lanes	two 10' lanes
Paved shoulders		2 (2')	2 (2')	2 (2')
Roadway Width (include shoulders) (ft) 4	20	24	24	24
Design Speed (MPH)	25 <sup>5</sup>	30	25	25
Maximum Grade (%)	18	15	18	18
Minimum Certerline Radius (ft.)	60	150	60	60
Maximum Length (ft.) <sup>6</sup>	N/A	N/A	N/A	N/A
Intersection Minimum Spacing (ft.) <sup>7</sup>	100	150	100	100
Design Volume (ADT)	500	2000	500	250
Typical # Houses	50	200	50	25
Sidewalks (both sides) Curb & Gutter Required	N/A	N/A	N/A	N/A
Minimum Intersection Radii <sup>8</sup>	25	25	20	20

<sup>&</sup>lt;sup>1</sup> Private loop roads and cul-de-sacs may use public road standards for the respective categories except that the width of the road is 20 feet.

<sup>&</sup>lt;sup>2</sup> Cul-de-sac bulb minimum constructed radius is 45' with a 50' right-of-way radius.
<sup>3</sup> Within the "Urban Reserve" areas of the County, the right-of-way shall be 54 feet.

<sup>&</sup>lt;sup>4</sup> Add 10 feet for bike lanes.

<sup>&</sup>lt;sup>5</sup> Design speed for Rural Private road may be reduced to twenty (20) miles per hour without road modification, if topography imposes severe restriction and has approval from the County Engineer.

<sup>&</sup>lt;sup>6</sup> The County Engineer may require a limitation to the length of a cul-de-sac or dead-end road in certain situations (see Section 12.05.280 ].

A ten (10) foot maximum off-set may be allowed.

<sup>8</sup> Intersection of two different street classifications shall use the larger intersection radius.

# TABLE 12.05.120-5 DESIGN CRITERIA FOR URBAN INDUSTRIAL ROADS

		Primary	Secondary	Local
Design Criteria	a	Industrial	Industrial	Industrial
J		Drawing 20 & 21	Drawing 22	
Maximum spacing			<2 miles	
Minimum R/W (ft.)	2 lane	NA	60	50
, ,	3 lane	60	70	65
	5 lane	80	NA	NA
Lane Width (ft.)	2 lane	NA	14-14-10	16
	3 lane	14	NA	16-12-16
	5 lane	13-12-14-12-13	NA	NA
Median Width (ft.)	5 lane	14	NA	12
Shoulder/Parking (ft.) 1	2 lane	NA	0 1	(Note 4)
	3 lane	NA	NA	NA
	5 lane	NA	NA	NA
Roadway Width (ft.)	2 lane	NA	38	32
	3 lane	42	NA	44
	5 lane	64	NA	NA
Design Speed (MPH)		40	35	25
Minimum Grade (%)	Flat	0.4	0.4	0.4
	Rolling	0.4	0.4	0.4
	Mountainous	0.4	0.4	0.4
Maximum Grade (%) <sup>2</sup>	Flat	7	7	9
	Rolling	9	9	9
	Mountainous	10	10	9
Minimum Centerline	Flat	575	575	200
Radius (ft.)	Rolling	440	440	200
	Mountainous	300	300	200
Design Volume (ADT)	2 lane	NA	8,000-10,000	<4,000
	3 lane	8,000-12,000	NA	NA
	5 lane	12,000-24,000	NA	
Min. Full Access Intersection S	pacing (ft.)	275	275	NA
Design DTN Section		300 min.	200 min.	150
Min. Pavement Section			Soils Study	Specific Design
Sidewalk		6'	6'	6′
Curb & Gutter required		18" C&G	18" C&G	18" C&G
Minimum Intersection Curb Rad	dii (ft.) <sup>3</sup>	50	45	45′
Minimum R/W radius chords		40	35	

#### NOTES:

- 1. Shoulders shall be widened two feet where guardrail is planned. Parking limited to one side.
- 2. May be steeper for short distances where permitted by AASHTO Guidelines. Higher grade for Local Industrial standard can be approved by County Engineer.
- 3. Must meet state standards if intersecting state roads.
- 4. No Parking

# 12.05.210 Access Management

### I. Access to Local Access Roads

### A. Spacing.

- Excepting the bulbs of cul-de-sacs, driveways providing access onto non-arterial streets serving single-family or duplex residential structures shall be located a minimum of five (5) feet from the property lines furthest from the intersection. Where two (2) driveways are permitted, a minimum separation of fifty (50) feet shall be required between the driveways, measured from near edge to near edge.
- 2. Corner lot driveways shall be a minimum of fifty (50) feet from the intersecting property lines or in the case where this is impractical, the driveway may be located five (5) feet from the property line away from the intersection or as a joint use driveway at this property line. Where a residential corner lot is located at the intersection of a non-arterial street with an arterial street, the corner clearance requirements of Section 12.05.210.II.A.4. CCC shall apply to the non-arterial street.
- 3. Flag lots and joint driveways serving 2 or 3 lots are exempt from the requirements of this subsection, 12.05.210.I.A.
- 4. Non-residential driveways are prohibited from taking access from a Urban Access Road as defined in Table 12.05.120-3 unless no access exists or can be provided to a collector.

### B. Number and Width

A maximum of two (2) driveways may be permitted to a residential lot or individual duplex unit meeting the spacing requirements of Section 12.05.210.I.A CCC. Joint use driveways may be allowed and will count as a driveway for each residential lot or duplex unit. For a joint use driveway, a minimum of a twenty (20) foot wide easement is required. Driveways shall have a minimum width of 12 feet of clear unobstructed all weather driving surface and an overhead clearance of 13 feet 6 inches. The first, or only, driveway shall be twelve (12) feet to thirty-five (35) feet in width. If a second driveway is allowed, the maximum width of the second driveway will be fifteen (15) feet.

### C. Length

All new driveways longer than 300 feet shall be provided with an approved turnaround at the terminus. There shall also be approved turnouts constructed such that the maximum distance from turnout to turnout, or from turnout to turnarounds does not exceed five hundred (500) feet. Turnouts shall comply with Drawing 33. Construction of

roads and driveways within the Wildland Urban Interface/Intermix area shall conform to Section 15.13.030 CCC.

The review authority may grant an exception to the requirements of Subsection I(C) of this section to extend the maximum distance between turnouts/turnarounds or allow other appropriate relief where it is impractical or excessively costly to meet these requirements due to topography, sensitive areas, natual features, or where application of these standards would be disproportional.

## D. Maximum Dwelling Units Served by Access Roads

1. No road may serve more than one hundred (100) lots or dwelling units unless that road is connected by a second vehicle access to the same "feeder" road at a different location, or to another "feeder" road that functions at a level equal to at least an Urban Local Residential Access road or a Rural Local Access road. The second access road may be a county emergency access road only, if it serves less than 200 lots.

The second access may be satisfied through the use of an existing roadway network in the existing adjacent neighborhood if:

- a) An existing road was previously stubbed indicating intent for future access, or
- b) An easement has been dedicated specifically for such purpose, and a roadway has been built to county standards or will be constructed with the development to county standards.

In either case, the increase in traffic volume on the existing roadway network must not cause the traffic volume to exceed the design volume of the existing roadway network.

- 2. The review authority may grant an exception to the requirements of subsection (I) of this section in the case of a subdivision with more than one phase, when it can be shown that the other necessary access roads will be constructed in a future phase of the same subdivision. Street stubs built to the property line of property not under the developer's control does not qualify for such an exception.
- 3. Urban Neighborhood Circulator roads within a development which meet the access requirements above may serve up to three hundred (300) lots or units if approved by the review authority. However, the review authority may require a traffic circulation study showing a balanced traffic flow of less than two thousand (2,000) vehicles per day past any dwelling unit accessing on a

Neighborhood Circulator road or lesser classification upon full buildout.

- When required emergency or regular secondary access roads cannot be installed due to location on property, topography, waterways, nonnegotiable grades or other similar conditions, the County Fire Marshal may require additional fire protection as specified in Title 15 of this code.
- 5. The standards contained in Section 12.05.210.I.D. CCC, are waived in their entirety for developments in rural areas.

### II. Access to Collectors

In order to limit the number of residential roads intersecting with collectors while providing adequate neighborhood circulation, residential roads intersecting with collectors shall be classified and constructed to standards applicable to Local Residential Access road unless the County Engineer finds that a lesser classification adequately provides for the circulation needs of the surrounding area.

Road Approach Permits not associated with development shall be reviewed using a Type I process.

### A. Driveways

### 1. Urban Collectors

No residential driveways in the urban area will be permitted to access collectors unless no other access to the site exists or can be made available, PROVIDED, this provision will not be interpreted to indirectly limit the number of lots in an infill development and the County Engineer may authorize either direct access and/or an infill private road serving a greater number of lots than otherwise authorized by Table 12.05.120-3.

### 2. Rural Collectors

Residential driveways in the rural area will not be permitted to access collectors if direct lot access is available to an existing rural access road as defined in Table 12.05.120-4.

### 3. Spacing

When driveways on collectors are permitted, they shall be spaced in accordance with Table 12.05.210.II.A-1.

Table 12.05.210.II.A-1
Driveway Spacing on Arterials / Collectors

Arterial & Collector Posted Speed (MPH)	Minimum Separation (Feet)
20	85
25	105
30	125
35	150
40	185
45 and over	230

The distance between adjacent one-way driveways with the inbound drive upstream from the outbound drive may be one-half the distance shown. Where raised channelization exists, only those driveways on the development side of the road will be considered for minimum separation requirements.

### 4. Number of Driveways

The number of driveways and driveway lanes shall be based upon an estimate of site traffic generation in accordance with Table 12.05.210.II.A-2.

Table 12.05.210.II.A-2
ADT Carried by Each Driveway onto Collectors

	ADT for First Driveway	Maximum ADT for Each Additional Driveway	
Access from			
Commercial use	0 to 1,000	2,000	
Office park	0 to 1,500	2,000	
multifamily use	0 to1,000	2,000	
Industrial use	0 to 1,500	2,000	

Multiple driveways are not permitted until the estimated ADT exceeds the number shown in the second column for the different types of land use. Then, an additional driveway is allowed each time the estimated ADT increases above the previous maximum ADT for each driveway as shown in the third column, PROVIDED the additional driveways meet the spacing requirements specified in Table 12.05.210.II.A-1.

Two driveway exit lanes are allowed when the ADT exceeds 700.

### 5. Width

A single family residential driveway onto a collector shall be fifteen (15) to thirty-five (35) feet in width; PROVIDED, that a joint use driveway serving two (2) residential lots shall not exceed thirty-six (36) feet in width. A non-residential two (2) way

driveway onto a collector shall be twenty-four (24) to forty (40) feet in width.

### 6. Corner Clearance

To provide adequate corner clearance, the tangent curb length between the nearest edge of a driveway on an intersecting side street and a collector roadway, or a driveway on a collector roadway and an intersection with a cross street shall be fifty (50) feet. Where the intersection is signalized or is planned for signalization, driveways shall be limited to right-turn movements if located within one hundred twenty-five (125) feet on a collector.

### 7. Additional Improvements

The installation of other improvements such as left-turn lanes, right-turn lanes and traffic signals may be required by the County Engineer where found necessary on the basis of a traffic engineering study.

### 6. Temporary Driveway

A temporary driveway may be allowed when, due to conditions beyond the control of the developer, minimum driveway separation cannot be achieved at the time of application. The County Engineer may approve a temporary driveway when an access plan shows future removal of the temporary driveway and a new driveway which meets the spacing standards shown above.

### III. Access to Arterials

In order to limit the number of residential roads intersecting with arterials while providing adequate neighborhood circulation, residential roads intersecting with arterials shall be classified and constructed to standards applicable to Local Residential Access or collector road unless the County Engineer finds that a lesser classification adequately provides for the circulation needs of the surrounding area. In those cases in which an urban access street less than thirty-six (36) feet wide is approved, such street shall have a minimum width of thirty-six (36) feet at the intersection with the arterial and shall be tapered as shown on the standard plans.

Road Approach Permits not associated with development shall be reviewed using a Type I process.

### A. Driveways

No driveways will be permitted to access onto arterials unless no other access to the site exists or can be provided.

### 1. Spacing

When driveways on arterials are permitted, they shall be spaced in accordance with Table 12.05.210.II.A-1.

### 2. Number of Driveways

Where permitted, the number of driveways and driveway lanes on arterials shall be based upon an estimate of site traffic generation in accordance with Table 12.05.210.II.A-3.

Table 12.05.210.II.A-3
ADT Carried by Each Driveway onto Arterials

	ADT for First Driveway	Maximum ADT for Each Additional Driveway		
Access from	-	Minor Arterial	Principal Arterial	
Commercial use	0 to 2,000	3,500	5,000	
Office park	0 to 2,000	3,000	5,000	
multifamily use	0 to1,500	3,000	5,000	
Industrial use	0 to 1,500	3,000	4,000	

a. Multiple driveways are not permitted until the estimated ADT exceeds the number shown in the second column for the different type of land use. Then, an additional driveway is allowed each time the estimated ADT increases above the previous maximum ADT for each driveway as shown in the columns for minor arterials and Principal Arterials, PROVIDED the additional driveways meet the spacing requirements specified in Table 12.05.210.II.A-1.

As an example, a commercial land use on a minor arterial has one driveway up to 2000 ADT, then two driveways for 2001 to 5500 ADT, three driveways for 5501 to 9000 ADT and so on.

- b. A permit for exclusive use of a truck driveway in addition to the non-truck traffic may be granted for commercial uses that exceed 30,000 square feet of gross floor space.
- c. Two driveway exit lanes are allowed when the ADT exceeds 1000.

### 3. Width

A single family residential driveway onto an urban arterial shall be fifteen (15) to thirty-five (35) feet in width; PROVIDED, that a joint use driveway serving two (2) residential lots shall not exceed thirty-six (36) feet in width. A commercial and multifamily two (2) way driveway onto an arterial shall be twenty-four (24) to forty (40) feet in width;

### 4. Corner Clearance

To provide adequate corner clearance, the tangent curb length between the nearest edge of a driveway on an intersecting side street and an arterial roadway, or a driveway on an arterial roadway and an intersection with a cross street shall be fifty (50) feet. Where the intersection is signalized or is planned for signalization, driveways shall be limited to right-turn movements if located within two hundred fifty (250) feet on minor and principal arterials.

### 5. Additional Improvements

The installation of other improvements such as left-turn lanes, right-turn lanes and traffic signals may be required by the County Engineer where found necessary on the basis of a traffic engineering study.

### 6. Temporary Driveway

A temporary driveway may be allowed when, due to temporary conditions beyond the control of the developer, minimum driveway separation cannot be achieved at the time of application. The County Engineer may approve a temporary driveway when an access plan shows future removal of the temporary driveway and a new driveway which meets the spacing standards shown above is assured to be constructed.

# B. Medians and Channelization Policy

In order to preserve capacity and promote safety, arterials shall include raised medians to restrict cross traffic movements. In general, full access intersections, signalized and nonsignalized, on arterials will be permitted only with other county, state and city roads as are designated on the Arterial Atlas, as amended. Circulation from such intersections in most cases will satisfy the access needs of adjacent land. However, in the event a developer requests a median opening along an arterial or left-turn channelization access (in cases where the arterial is not designed with a median) which does not conflict with proper intersection spacing, such request shall be accompanied by a traffic study performed under the requirements of Chapter 12.40 CCC. The proposed median opening or left-turn channelization may be approved only if the study shows:

1. The existing or projected level of service on the arterial or at the nearest arterial intersection is at or above the minimum level of service established in Chapter 12.40 CCC.

- a. No existing or planned intersection is located within six hundred (600) feet of the proposed opening; or
- b. The average daily traffic (ADT) projected for the driveway utilizing the proposed opening exceeds six thousand (6,000).
- 2. The level of service on the arterial will significantly improve as a result of the proposed opening.
- 3. The proposed location of the opening will increase service to surrounding properties.

The study also shall address such items as capacity, signalization, channelization and storage needs of the proposed median opening or left-turn channelization and how it can service surrounding properties as well. Information used in the study shall include both current traffic counts to determine immediate need for the median opening or left-turn channelization and projected counts to determine the future need therefor. Traffic projections shall be taken from existing studies where available and designated by the County Engineer. PROVIDED, that in no event shall projections be for a period longer than twenty (20) years. The cost of a median opening or left-turn channelization, approved under the above criteria, shall be borne by the developer.

### IV. Access to State Routes

If the access serving a development is onto a state road or highway, required dedication and/or improvements thereto must meet the requirements of the Washington State Department of Transportation. In no case may the requirements be less than the access requirement to a Principal Arterial in urban areas or a Major Collector in rural areas.

# 12.05.220 Frontage Roads/Improvement

### I. General Requirement.

Unless already fully developed to the Transportation Standards and subject to the limitations set forth in this section and in Sections 12.05.620 and 12.05.660, a partial-width road shall be established and constructed to the applicable right-of-way or easement and improvement standards set out in Section 12.05.120 to that portion of a frontage public or private road which abuts a parcel being developed as a condition of development approval.

A. The right-of-way or easement width shall be a minimum of one-half (1/2) of that specified in Tables 12.05.120-1 through 12.05.120-5, attached to the ordinance codified in this chapter, PROVIDED, that such minimum width may be increased where necessary to accommodate the minimum roadway improvement provided below to allow a minimum three (3) feet of right-of-way beyond the back of the sidewalk for urban public roads

unless the sidewalk is detached from the curb with sufficient room to provide for utilities and signing, or for needed construction clearance, slopes or other features.

In the case of a development containing an arterial or fronting on an arterial street, the developer shall only be required to construct improvements up to forty-four (44) feet in width, or twenty-two (22) feet on a partial-width frontage, together with curbs and sidewalks, unless a wider section is necessary to accommodate the development.

Sufficient right-of-way and easement for a partial-width road must be provided to accommodate all necessary appurtenances required for construction including, but not limited to, approved cut or fill slopes or retaining structures if needed, If sufficient right-of-way is not available, slope easements from neighboring properties are an acceptable alternative. Such easements shall be recorded with the final plat. The County may require the proposed road cross-sections showing neighboring topography be submitted in order to determine if the partial-width road can be constructed as required.

- B. The partial width roadway shall be a minimum of twenty (20) feet wide, except for Infill B Private Road.
- C. New partial width roads will be allowed in commercial, office or industrial developments only after a traffic study verifies the adequacy of the roadway for clearance and turning movements.
- D. Where physical obstructions or development constraints preclude or limit full completion of the frontage road on the adjoining property, the partial -width roads may be allowed
- E. Parking shall be prohibited along partial width roads, with signs and pavement markings being the responsibility of the developer.
- F. Where frontage improvements are required, the County will perform pavement deflection testing to determine the adequacy of the existing pavement. Where remaining life of the pavement is less than five (5) years, the applicant shall construct the roadway to current standards to the centerline or twenty-two (22) feet, whichever is less. If remaining life is greater than five (5) years, the road shall be cut back to a location where the structure is sound and the widening constructed. However, in no case shall the reconstruction be less than four (4) feet in width from the existing edge of pavement to the new edge of pavement or face of curb. The county may require reconstruction to the centerline or twenty-two (22) feet, whichever is less, if the County Engineer determines the geometrics or other existing features are inadequate.
- G. The intersection of driveways with paved rural public roads shall be paved from the edge of the public road to the right-of-way or to twenty (20) feet from the edge, whichever is greater.

### II. Exceptions

- A. The right-of-way and easement requirements of subsection (I) of this section shall not apply to the construction, remodeling or enlargement of any Group R-Division 3 (single-family or duplex), or Group U occupancy (as defined in the Uniform Building Code), to the construction of any accessory residential structure, to any sign, or to the structural addition, alteration or repair to any existing structure within any twelve (12) month period which neither exceeds twenty-five percent (25%) of the value of the existing structure nor increases the total floor space of the structure by more than ten percent (10%).
- B. The roadway frontage improvement requirements of subsection (I) of this section shall not apply to rural developments outside Rural Centers or those urban developments which the County Engineer finds, based upon an engineering traffic study, will not result in an increase of total site trip generations during the PM peak hour of more than ten percent (10%); PROVIDED that such otherwise exempt developments shall be required to make intersection and sight distance improvements in accordance with Sections 12.05.240 and 12.05.250 and such frontage road improvements as are necessary in order to provide minimally safe access to the development.

### III. Deferral

- A. In the event that required frontage road improvements are included as a portion of a county road project on the County's Six-Year Transportation Improvement program scheduled to be undertaken within three (3) years, the developer, in lieu of constructing or guaranteeing the construction pursuant to Section 12.05.770 (XII.) CCC of such frontage improvements may be permitted to contribute a proportionate share towards the cost of such county road project by an agreement consistent with the requirements of RCW 82.02.020.
- B. The development approval authority may defer frontage road improvements, in whole or in part, where the current development proposal is for urban single-family residential lots larger than one (1) acre and a covenant running with the land is recorded requiring such improvements to be undertaken when re-division is proposed at an urban density.

# 12.05.230 Off-site Road Improvement

### I. General

Nothing in this chapter shall be construed to preclude denial of a proposed development where off-site road conditions are inadequate to provide a minimum level of service as specified in Chapter 12.40 CCC or a significant traffic or safety hazard would be caused or materially aggravated by the

proposed development: PROVIDED, that the developer may voluntarily agree to mitigate such direct impacts in accordance with the provisions of RCW 82.02.020.

# II. Requirements for Off-site Access Road Improvements

All roads providing access to parcels being developed, whether such roads are to be public or private, shall at a minimum:

- A. Within the urban area have an unobstucted and paved roadway width of twenty (20) feet, except in those cases where the preexisting road is eighteen (18) feet wide with one (1) foot wide shoulders, additional widening to the twenty (20) foot standard is not necessary. Any preexisting roadway narrower than eighteen (18) feet with one (1) foot shoulders shall be widened to the full twenty (20) foot standard.
- B. Within the rural area, off-site public access roads shall meet the same standards as Section 12.05.230.II.A above. Off-site private access roads are not required to be paved but shall have an all weather driving surface, unobstructed roadway width of twenty (20) feet; except in those cases where the pre-existing road is eighteen (18) feet wide, additional widening to twenty (20) feet is not necessary. Any pre-existing roadway narrower than eighteen (18) feet shall be widened to the full twenty (20) feet standard.
- C. Have an unobstructed vertical clearance of not less than thirteen feet six inches (13' 6").
- D. Notwithstanding the foregoing, roads providing access to legal lots created prior to July 9, 1996 being developed with a Group R-Division 3 structure or residential mobile home, may be constructed with a minimum 12 feet wide unobstructed all weather driving surface.
- E. Offsite private roads providing access to lots being developed shall have a minimum easement partial width of twenty-five (25) feet, from such lot to a public road, except for alleys and infill A and B private roadways.

# III. Requirements for Off-site Intersection Improvement

The owners of a parcel being developed shall enter into a signal participation agreement to contribute a proportionate share towards the cost of a traffic signal when:

- A. An intersection impacted by the proposed development is designated by the County for installation of a traffic signal, and
- B. The parcel being developed is not located within a Traffic Impact Fee (TIF) service area, and
- C. During the peak hour, the development generates a minimum of three (3) percent increase of traffic on the intersection approach leg impacted

by the development, or five (5) trips on a minor leg (those legs of the intersection that have the smaller approach volume) or twenty (20) trips on a major leg (those legs of the intersection that have the larger approach volumes), and

D. The peak hour level of service at the leg of the intersection impacted by the site-generated traffic is at or will fall below the minimum Level of Service standard for that intersection as defined in Chapter 12.40 CCC.

# 12.05.240 Intersection Design

### I. Intersection Geometry

Private and public roads shall be laid out so as to intersect at an angle as near to a right angle as practicable, but in no case less than seventy-five (75) degrees for roads intersecting collectors and arterials and no less than sixty (60) degrees for access roads, unless modified pursuant to Section 12.05.660 CCC. Opposing roads accessing an intersection shall either be aligned or will be separated by a Minimum Intersection Spacing, as specified in Tables 12.05.120-1 through Table 12.05.120-5. Depending on the width of the intersection opening, an off-set greater than ten (10) feet for access roads or five (5) feet for collectors and arterials is not allowed.

### II. Intersection Right-of-Way

Intersections shall have a minimum corner radius of ten (10) feet along the right-of-way lines for access roads and a minimum corner radius of twenty-five (25) feet along the right-of-way lines for collectors and arterials, unless road improvements require a greater radius.

On collectors and arterials, the dedication of right-of-way on corners shall include the chord of the radius. The county will accept an easement for this chord instead of dedication of right-of-way. For arterials intersecting with other arterials, an additional six (6) feet right-of-way may be required on both sides of the roadway if a future turning lane is required, based on Transportation Impact study, within twenty (20) years from the time an application is submitted. The length of the additional right-of-way shall be determined based on the Transportation Impact Study.

# III. Paving of Intersecting Area

Where connecting to a paved street, whether public or private, the connecting road or driveway (excluding driveways in rural area) shall be paved twenty-five (25) feet back from the nearest edge of the traveled lane, or shall be equal to the minimum intersection radii as specified in Tables 12.05.120-1 through 12.05.120-5, whichever is greater.

Driveways in rural areas connecting with paved public roads shall be paved from the edge of the public road to the right-of-way or to twenty (20) feet from the edge, whichever is greater.

Rural paving shall be done in accordance with the equivalent base structural requirements of the gravel road section (Drawing 27).

# 12.05.250 Sight Distances

Unless modified pursuant to Section 12.05.660, public and private roads shall comply with the following sight distance requirements:

### I. Stopping Sight Distance

Public roads shall have minimum stopping sight distance, as measured from a height of 3.5 feet to a target on the roadway nominally six (6) inches in height, in accordance with Table 12.05.250-I.

"Posted speed", which is statutory (50MPH as per RCW 46.61.415) or recommended through a speed zone study and adopted by resolution by the Clark County Board of Commissioners, shall be the legal speed limit generally applicable to such roadway. The advisory speed shown on a yellow Advisory Speed Plate is not a legal speed limit. The County, or the applicant, should conduct a speed study if the actual traffic speeds are significantly different than the posted speed limit.

Table 12.05.250-I Stopping Sight Distance

Posted Speed	Minimum Stopping
(mph)	Distance (feet)
25	150
30	200
35	250
40	325
45	400
50	475

### II. Controlled Intersection and Driveway Sight Distance Triangle

Traffic entering an uncontrolled public road from stop sign controlled public roads, or from private roads or private driveways shall have minimum corner sight distances, as shown in the following table, except as allowed in 12.05.250.III. They are measured from an eye height of 3.5 feet above the controlled road at least fifteen (15) feet from the edge of the vehicle travel lane of the uncontrolled public road to an object height of 4.25 feet on the uncontrolled public road in accordance with Table 12.05.250-II.

# Table 12.05.250-II Controlled Intersection, Public Road and Driveway Sight Distance

Posted Speed, Uncontrolled Road (mph)	Minimum Corner Sight Distance (feet)
20	200
25	250
30	300
35	350
40	400
45	450
50	500

# III. Uncontrolled Intersection and Driveway Sight Distance Triangle in Residential Areas.

This section applies only to Access Roads in urban and rural areas. Uncontrolled intersections shall have an unobstructed sight distance triangle of one hundred (100) feet on both approaches. This requirement may be reduced to eighty (80) feet for intersections adjacent to corner lots in an urban residential subdivision. Driveways shall have an unobstructed sight distance of one hundred (100) feet in both directions, except corner lot. The sight distance is measured along the lines four feet from the center line, in drivers' direction, for both approaches or directions. Landscaping or fencing within the sight distance triangle shall not interfere with this sight distance requirement.

### IV. Effect of Grades

The effect of grades on the above stopping and intersection sight distances shall be governed by the criteria stated in the American Association of State Highway and Transportation Officials' (AASHTO) reference "A Policy on Geometric Design of Rural Highways" (1990).

### 12.05.260 Street Extensions

- I. General Requirements. Where a public or private road has been constructed, created or stubbed in such a manner as to be able to be extended or widened in accordance with adopted road plans, prior approved development or this chapter, (including but not limited to maximum length requirements for cul-de-sacs as established in Table 12.05.120-3 of the Design Criteria for Urban Access Roads, attached to the ordinance codified in this chapter), then
  - A. Connection With Adjacent Areas. All residences, buildings or structures shall be constructed in such a position on the property that they will not interfere with the extension or widening of the roadway to adjacent

areas and shall be so situated that such extension will make orderly and planned development for additional road installations to meet the reasonable minimum requirements of good and safe traffic circulation, consistent with applicable zoning setbacks.

- B. Right-of-way for Street Extensions. Right-of-way or private easements necessary to such extension or widening and falling within parcels being developed, shall be granted or created as a condition of development approval.
- II. Urban Developments.
  - A. Provisions for Future Extensions. Any street within the urban area for which an extension in the future is planned shall be extended to the edge of the property being developed through the plat, short plat or site plan approval process, unless otherwise approved by the review authority. The street stub shall be a full street section, including sidewalks.
  - B. Use of Temporary Turnaround. If a road serving more than eighteen (18) dwelling units or more than one hundred fifty (150) feet in length temporarily terminates at a property boundary, a temporary turnaround cul-de-sac bulb consistent with this standard shall be constructed near the plat boundary. The bulb shall be paved and shall be ninety (90) feet in diameter, which may include the width of the roadway with sidewalks, where required, terminating at the point where the bulb radius begins. Removal of the temporary turnaround and extension of the sidewalk shall be the responsibility of the developer who extends the road (see Drawing 31).
  - C. Barricades. A barricade shall be placed at the end of all stub streets, whether or not a temporary turnaround is constructed. For placement of Temporary and Permanent Barricades, see Section 12.05.770. (VI).
- III. Rural Developments. For any road in the rural area for which an extension is planned, the right-of-way falling within parcels being developed shall be dedicated where the existing platting pattern, the development under review and the potential for development of adjacent lots demonstrates a need for the dedication.

# 12.05.270 Private Roads<sup>1</sup>

### I. Purpose

<sup>&</sup>lt;sup>1</sup> For Private Road Maintenance Agreement, Private Road Inspection, and Developer Maintenance Obligation for private roads, see Section 12.05.770. VII.

The purpose of private road standards is to provide an option to retain rural character, reduce costs to serve large rural lots, and allow more control, security, and sense of identity when public roads are not needed for public circulation.

## II. Approval Criteria and Requirements

### A. Approval Criteria-General

Private roads are not allowed in either the urban or rural area:

- 1. When they conflict with the Arterial Atlas, as amended, or
- 2. When they are needed for public circulation, or
- 3. When they connect two (2) public roads (except for commercial or industrial uses in urban areas), or
- 4. When they are to serve more than fifty (50) potential residential lots in rural areas or one hundred (100) lots in urban areas, created after April 12, 1994, except within a Planned Unit Development; PROVIDED that where expansion of a public road is not presently feasible, the limitations of this subsection shall not apply if the affected internal and frontage roads are improved to public standards (if otherwise required) and dedicated to Clark County, with the acceptance of such dedication(s) being deferred until extension of a public road allows connection.

# B. Additional Requirements for Urban Private Roads

Private roads within developments may be allowed, provided they meet the following additional criteria:

- 1. Structural sections shall be the same as for public roads of equivalent classification,
- 2. A pedestrian access plan shall be approved,
- 3. Internal traffic calming measures or devices such as speed humps or traffic circles may be required, and
- 4. Minimum curb to curb width shall be twenty (20) feet with parallel parking prohibited on streets that are less than twenty-four (24) feet wide, PROVIDED in non-residential areas, the minimum curb to curb width shall be twenty (20) feet with parallel parking prohibited on streets that are less than twenty-eight (28) feet wide.

### III. Notice

The following statement is required on the face of any plat, short plat, site plan, or binding site plan containing a private road: "Clark County has no responsibility to improve or maintain the private roads contained within or private roads providing access to the property described in this plat. Any

private access street shall remain a private street unless it is upgraded to public street standards at the expense of the developer or adjoining lot owners to include hard surface paving and is accepted by the County for public ownership and maintenance."

## 12.05.275 Joint Driveways

A maximum of three legal lots may use a joint driveway to access a public or private road.

#### 12.05.280 Cul-De-Sacs and Turnarounds

#### I. Cul-De-Sacs

- A. Whenever a residential urban cul-de-sac street is more than one hundred fifty (150) feet long, a bulb or hammerhead shall be constructed as follows:
  - 1. Minimum right-of-way diameter across bulb section: one hundred (100) feet in a permanent cul-de-sac; ninety (90) feet in a temporary cul-de-sac, with any bulb area lying outside straight-street right-of-way provided as temporary easement pending forward extension of the street. Right-of-way may be reduced to eighty (80) feet provided utilities and necessary drainage are accommodated on permanent easements within the development and a thicker abutting sidewalk section is utilized. (Drawings 28, 29, 32b, and 32c).
  - 2. Urban cul-de-sac or eyebrow island: Optional feature for any cul-de-sac when the bulb's paved diameter is ninety (90) feet or less; mandatory when the bulb's paved diameter exceeds ninety (90) feet. If provided, islands shall have full-depth vertical curbs. Minimum island diameter shall be twenty (20) feet and there shall be at least twenty-two (22) feet of paved traveled way in a shoulder type section; thirty (30) feet of paved traveled way in a curb type section around the circumference. Islands shall be grassed or landscaped. Islands shall be maintained by the adjoining lot owners. Islands are required on eyebrows with a radius greater than thirty (30) feet. The minimum island diameter shall be ten (10) feet.
- B. In the urban and urban holding areas of the county, a permanent cul-desac shall not be longer than six hundred (600) feet measured from curb line of intersecting street to the center of the bulb section. Proposed modifications to this rule will be considered by the review authority based on pertinent traffic planning factors such as topography, sensitive areas and existing development.
- C. In the rural area of the county, there is no limitation to the length of a dead-end road, loop road, or cul-de-sac, PROVIDED however, that

approved turnarounds on roads greater than one-half mile long are provided every one thousand three hundred twenty (1,320) feet or as close to that distance as practical considering topography, natural features and existing man-made structures. Approved turnarounds may include cul-de-sacs (Drawing 30) which may include the width of the roadway (Drawing 31), intersecting public or private roads, hammerheads (Drawings 32 & 32a), or driveways meeting the dimensional requirements of a hammerhead (Drawings 32 & 32a).

Within the Wildland Urban Interface/Intermix, approved turnarounds shall be provided every one thousand (1000) feet.

Notwithstanding the foregoing, the development approval authority may restrict the length of a dead-end road or cul-de-sac where it is clearly shown that either:

- 1. There is a practical alternative design that results in significantly superior actual or potential road connectivity or emergency services accessibility; or
- The presence of unstable slopes, flood risk, or other road blockage hazard presents a significant potential for isolating a substantial area from emergency services.
- D. The County Engineer or reviewing agency may require an off-street accessway or an emergency vehicle access to connect a cul-de-sac at its terminus with other streets, parks, schools, bus stops, or other pedestrian traffic generators, if the need exists for pedestrian and bike circulation.

#### II. Turnarounds

- A. When four (4) or more lots are served on a private road greater than one hundred fifty (150) feet in length, an approved turnaround shall be provided at the end of the private road. Easements may be required to be expanded to accommodate turnaround requirements.
- B. Approved turnarounds may include cul-de-sacs with an approved diameter in accordance with Drawings 28, 29, 30, and 31, (which may include the width of the roadway), or hammerheads (Drawings 32, 32a, 32b, and 32c), intersecting public or private roads or any alternative design approved through the road modification process.
- C. For those areas identified as wildland urban interface/intermix, refer to Chapter 15.13 CCC as amended.

## 12.05.290 Urban Neighborhood Traffic Management

#### I. Purposes

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32 33 34 Urban Neighborhood Traffic Management is intended to manage traffic speeds within residential neighborhoods and to discourage external traffic cutting through residential neighborhoods.

## II. Applicability

The provisions of this section shall apply only to access roads within a development which meet one of the following conditions in the following districts: R1-5, R1-6, R1-7.5, R1-10, R1-20, R-12, R-18, R-22, R-30, R-43, OR-15, OR-18, OR-22, OR-30, OR-43, CR-1, CR-2, and MX:

- A. Projected average daily trip of greater than 600 and less than 2000 motor vehicles and a sight distance in excess of 600 feet, or
- B. Determined by the County Engineer, not his/her designee, that traffic calming measures and/or traffic calming devices are warranted.

The County Engineer may waive the requirements of this section for Type I and Type II applications where the conditions listed above will not occur.

## III. Standards and Requirements

If the condition in Section 12.05.290.II occurs, traffic calming measures and/or traffic calming devices shall be required:

## A. Traffic Calming Measures<sup>1</sup>

Traffic calming measures, such as "T" intersection, street trees, curvilinear streets, or entry treatments, shall be incorporated into the overall development design to manage traffic speeds.

## B. Traffic Calming Devices<sup>2</sup>

Traffic calming devices, such as speed bump/hump and the devices shown in Appendix E, shall be installed.

#### 12.05.300 Urban Transit Circulation Standards

New residential, commercial and industrial developments shall be reviewed with the participation of C-TRAN invited during the development review process under Chapter 18.600 CCC to ensure appropriate design and integration of transit facilities into the development.

## 12.05.400 Pedestrian / Bicycle Circulation Standards

Pedestrian and bicycle circulation facilities shall be designed to: (A) Provide safe, convenient and appropriate levels of access for pedestrians and bicyclists, and (B) Allow for unobstructed movements and access pursuant to the Americans with Disabilities Act, as amended.

<sup>&</sup>lt;sup>1</sup> See Section 12.05.030 for definition

<sup>&</sup>lt;sup>2</sup> See Section 12.05.030 for definition

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## I. Pedestrian Circulation/Sidewalks<sup>1</sup>

#### A. Urban Areas

Sidewalks shall be constructed as provided below.

- 1. Where Required. Sidewalks shall be constructed along both sides of all public roads in urban areas in accordance with the standard plans, and along both sides of a new or reconstructed urban street or streets internal to a development. Sidewalks shall be constructed within the right-of-way of a public road or within a public easement.
- Exceptions. Sidewalk requirements may be waived or reduced where an approved pedestrian circulation plan is incorporated into the development application. Sidewalk requirements may also be reduced to one side only of the development frontage for new streets when topography or other physical features require a reduction in transportation standards.
- 3. **Width.** Sidewalks shall be constructed to the minimum width listed in Table 12.05.400.I-A; PROVIDED:

In instances where a minimum width less than five (5) feet is approved, there shall be Americans with Disabilities Act compliant five (5) foot by five (5) foot landings every two hundred (200) feet.

The remaining area between the curb and edge of right-of-way may be hardscaped if approved by the review authority.

# TABLE 12.05.400.I.A SIDEWALK & STREETSCAPING REQUIREMENTS.

	STREET	
LAND USE	Arterials/collectors	Local Access
Commercial, Multi-Family	6 ft. wide sidewalks.	5 ft. wide sidewalks.
Residential, Public Facilities,	Hardscaping vs.	Hardscaping vs.
and Institutional Uses	Landscaping allowed with	Landscaping permitted.
	approval.	
Single-Family Residential	6 ft. wide sidewalks.	5 ft. wide sidewalks.
(including Townhomes)	Hardscaping vs.	Hardscaping vs.
Industrial* Uses.	Landscaping allowed with	Landscaping permitted for
	approval.	industrial uses.

<sup>\*</sup> Industrial uses containing over 5,000 square feet of office space shall comply with the requirements for Commercial, Multi-Family Residential, Public Facilities, and Institutional Uses.

<sup>&</sup>lt;sup>1</sup> For Sidewalk Construction Standards, Construction Timing, Construction Bond, and Procedure, see Section 12.05.770.(VIII). For sidewalks detailed specifications, see Drawings 34 through 38. For reference materials, see Pedestrian Facilities Guidebook-Incorporating Pedestrians into Washington's transportation System, sponsored by WSDOT.

- 4. **Obstructions.** Fixed objects such as trees, tree wells, mailboxes, fire hydrants, utility or telephone poles, or benches may be placed on the sidewalk PROVIDED a minimum unobstructed width of thirty-six (36) inches is provided.
- 5. **At Transit Stops.** Sidewalks at transit stops shall be a minimum of eight (8) feet wide and may abut the curb.
- 6. When Attached to Curbs. Where sidewalks abutting the curb have been approved, sufficient right-of-way or easement shall be established to provide a minimum of three (3) feet of clearance between the back of sidewalk and right-of-way.
- 7. **Curb Ramps.** On all curbed streets along the frontage of a development, ramped sections to facilitate passage of handicapped persons, in compliance with Americans with Disabilities Act, shall be constructed through curb and sidewalk at street intersections and other crosswalk locations.
- 8. Where intersecting with Driveways. Sidewalks crossing driveways shall be constructed in compliance with Americans with Disabilities Act. See drawings 34 through 38 for detailed specifications.

#### B. Rural Areas

Commercial, industrial, conditional use, and public facility developments within Rural Centers shall construct detached sidewalks or walkways of portland cement concrete or asphalt along all street frontages. Such facilities, when required, shall be constructed to urban standards.

#### II. Bicycle Circulation

#### A. Urban Area

Where Required. Bike lanes shall be included in the reconstruction or new construction of any arterial or collector street if bike lanes are indicated in the Arterial Atlas or as required by the County Engineer.

**Signage and Markings.** Bike lanes shall include signage and pavement markings in conformance with the "*Manual on Uniform Traffic Control Devices*".

**Vertical Clearance.** Bike facilities shall have an unobstructed vertical clearance of not less than eight (8) feet.

Reference Standards<sup>1</sup>. Standards for bikeways consist of the following: *Manual on Uniform Traffic Control Devices*, USDOT, Federal Highway Administration.

#### B. Rural Area

Chapter 12.05 CCC Requires Codification

<sup>&</sup>lt;sup>1</sup> For additional reference see "Guide for Development of New Bicycle Facilities", AASHTO, 1991

 Rural area developments outside Rural Center are not subject to the bicycle circulation requirements.

#### III. Accessways

- **A. Applicability.** The approval authority may require an off-street accessway be constructed to provide direct routes for pedestrians and bicyclists not otherwise provided by the street system to mitigate the impact of development.
- **B. Design.** Accessways shall consist of a ten (10) foot minimum public easement and may be entirely hardscaped. All surfaces shall be designed to drain stormwater run-off to the side or sides of the accessway. Accessways shall comply with Americans with Disabilities Act standards.
- C. Visibility. Accessways shall be constructed so that the entirety of the accessway is visible from one or more adjacent public streets. Onstreet parking shall be prohibited within fifteen (15) feet of the intersection of an accessway and a public street to preserve safe sight distances. A vertical clearance of eight (8) feet is required.
- **D. No Vehicular Access.** Accessways shall be designed to prohibit motorized traffic. Curbs, bollards or branching the accessway into two narrower one-way paths before it reaches the roadway are suggested design considerations.
- **E. Stairways.** Stairways may be provided only in addition to the accessway. Stairways shall be at least five (5) feet wide with a center handrail, and flat sloped surfaces along the outside on which bicycles may be walked.
- **F. Off-site Improvements.** Developments shall not be required to provide public easements for accessways off-site to meet this requirement. If a public easement or public right-of-way is otherwise available off-site, the developer may be required to construct an accessway off-site up to one hundred and fifty (150) feet long to mitigate the impact of development.

## 12.05.600 Landscaping Plan

#### I. Applicable Area

On all arterials and collectors in the urban area, the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (Refer to Appendix G).

## II. Landscaping Plan<sup>1</sup>

All landscaping and irrigation (if any) within public right-of-way shall be shown on the plans and approved by the county. The County Engineer may require additional improvements, including the installation of irrigation, for any significant variation from the specifications contained in Appendix G. A nonexclusive list of allowed plant materials for street medians and right-of-ways is included in Appendix G.

## 12.05.620 Right-of-Way Standards

Dedication of arterial right-of-way shall occur within developments in accordance with the transportation element of the Clark County comprehensive plan.

#### I. Public Roads

The minimum right-of-way and roadway widths for all public urban and rural roads shall be as shown on the design criteria detailed in Section 12.05.120. Right-of-way widths, roadway widths and structural sections shall be consistent with projected traffic volumes planned for twenty (20) years from the time of design. Additional right-of-way or easement may be required where necessary to accommodate slopes, sight distance or other features necessary for maintenance or to enhance safety.

## II. Urban Planned Unit and Multifamily Developments

When constructed, public roads shall be constructed according to the design criteria of Section 12.05.120; PROVIDED, parking may be deleted when it is shown that four (4) non-tandem off-street parking spaces per unit are provided and distinct signs and markings show that no parking is permitted; and sidewalks along internal circulation roadways may be deleted by the review authority when it is shown that public walkways adequate for pedestrian circulation and meeting or exceeding the requirements of Section 12.05.400 are provided.

#### III. Commercial, Office Park and Industrial Areas

When constructed, public roads shall be constructed according to the design criteria of Section 12.05.120; PROVIDED, required roads shall be at least thirty-two(32) feet wide and in the urban area shall have curbs and six (6) feet wide sidewalks on each side of the roadway unless alternative walkways are provided. The structure of the road shall be designed according to minor arterial standards.

<sup>&</sup>lt;sup>1</sup> For detailed landscaping installation, such as Critical Locations, Postponement of Installation Due to Weather Conditions, period of Maintenance, and County's Role in Landscaping, see Section 12.05.770 (IX).

#### 12.05.660 Road Modifications

#### l. Criteria

- A. Modifications to the standards contained within this chapter may be granted in accordance with the procedures set out herein when any one of the following conditions are met:
  - 1. Topography, right-of-way, existing construction or physical conditions, or other geographic conditions impose an unusual hardship on the applicant, and an equivalent alternative which can accomplish the same design purpose is available.
  - 2. A minor change to a specification or standard is required to address a specific design or construction problem which, if not enacted, will result in an unusual hardship.
  - 3. An alternative design is proposed which will provide a plan equal to or superior to these standards.
  - 4. Application of the standards of this chapter to the development would be grossly disproportional to the impacts created.
    - a) Legislative Determination. Clark County has experienced historic growth at rates greater than four percent over the last twenty years. To address this issue, the legislature enacted the Growth Management Act which requires that urban growth areas be sized to accommodate growth and prevent urban sprawl by focusing development in underdeveloped portions of an urban area. The Board therefore finds and concludes that right-of-way dedicated, frontage improvements and crossroads constructed in urban growth areas will be substantially completed within the twenty year period provided in RCW 36.70A.110 in the absence of geographic or development constraints.
    - b) Crossroad and frontage construction and right-of-way dedication. Road modification applications shall include information indicating whether there are geographic or other factors which render connection/completion of the road unlikely.
- B. In reviewing a modification request, consideration shall be given to public safety, durability, cost of maintenance, function, appearance, and other appropriate factors, such as to advance the goals of the Comprehensive Plan as a whole. Any modification shall be the minimum necessary to alleviate the hardship or disproportional impact. Self-imposed hardships shall not be used as a reason to grant a modification request.

#### II. Types

For the purpose of processing, modification requests fall within the following two categories:

#### A. Administrative Modification

Administrative modification requests deal with the construction of facilities, rather than their general design, and are limited to the following when deviating from the Standard Specifications:

- 1. surfacing materials for roads or pedestrian facilities;
- 2. asphalt and/or base rock thickness less than required;
- 3. pavement marking layout;
- 4. exceeding the maximum street grade;
- 5. type and/or location of signage;
- channelization:
- 7. intersection interior angles and curb radii less than required;
- 8. utilizing the current set of standards in lieu of the standards that were in place when the applicant's proposed project was vested;
- access-related modifications onto collectors and state routes PROVIDED other substantive criteria such as sight distance and limited access points are met and PROVIDED FURTHER that access to a lesser classification of road is not available.
- 10. field changes during construction; and
- 11. similar revisions to the standards.

#### B. **Design Modifications**

Design modifications deal with the vertical and horizontal geometrics and safety related issues and include the following when deviating from the Standard Specifications:

- reduced sight distances;
- vertical alignment;
- 3. horizontal alignment;
- 4. geometric design (length, width, bulb radius, etc.)
- 5. design speed;
- crossroads;
- access policy;
- 8. a proposed alternative design which will provide a plan superior to these standards; and
- 9. all other standards.

#### III. Procedures

A modification request shall be classified as administrative or design by the County Engineer.

#### A. Administrative Modification

Administrative modifications may be requested at any time by filing a written application with the County Engineer. The application shall include sufficient technical analysis to enable a reasoned decision. The County Engineer shall provide a written decision on the application. No fee is applicable to the Administrative Modification.

## B. **Design Modification**

Design modifications shall be proposed in conjunction with the application for the underlying development proposal in accordance with Chapter 18.600 CCC. The design modification application, to be filed with the planning department, shall:

- Include a written request stating the reasons for the request and the factors which would make approval of the request reasonable:
- 2. Be accompanied by a map showing the applicable existing conditions and proposed construction such as contours, wetlands, significant trees, lakes, streams and rivers, utilities, property lines, existing and proposed roads and driveways, existing and projected traffic patterns, and any unusual or unique conditions not generally found in other developments;
- In the case of modification requests based upon alleged disproportionality, include an engineering analysis of the standard sought to be modified which contrasts relevant traffic impacts from the development with the cost of complying with the standard;
- 4. Design modification requests shall be processed in conjunction with the underlying development proposal; PROVIDED, that where the modification request is filed subsequent to the decision on the development proposal, such request shall be processed in accordance with the post-decision review procedures of Section 18.600.110 CCC, and subject to the fees listed in 6.110.020 CCC.

## IV. Road Modification for County projects

County public road improvements, when varying from the standards of this chapter, are required to meet the road modification procedures for changes in design; provided that a county project may include less than the full planned improvement or allow for staged construction. The submission of construction plan should be considered as development application.

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## **Article III. Specifications for Design and Construction**

## 12.05.700 Transportation Standard Specifications

## I. Transportation Standards

The standards for Clark County roads and bridges, and all other construction within publicly owned right-of-way, shall consist of:

- A. The current published edition of the "Standard Specifications for Road, Bridge and Municipal Construction" as published by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA) (referred as "Standard Specifications";
- B. The "Standard Plans for Road and Bridge Construction as published by WSDOT and APWA (referred as "Standard Plans": and
- C. Standard plans and design criteria prepared by Clark County of typical roadway sections, drainage and water quality appurtenances, and other typical roadway construction details, which are hereby adopted.

## II. Supplemental Standards

To implement the above standards, the following publications and their subsequent revisions are adopted and shall apply:

- A. The "WSDOT Design Manual";
- B. The "WSDOT Construction Manual":
- C. The "WSDOT Hydraulics Manual";
- D. "A Policy On Geometric Design Of Highways And Streets" prepared by the American Association of State Highway and Transportation Officials (AASHTO);
- E. The "Manual On Uniform Traffic Control Devices (MUTCD") prepared by the U.S. Department of Transportation, Federal Highway Administration;
- F. Chapter 13.25 CCC: "Stormwater Control Ordinance".
- G. Chapter 13.27 CCC: "Erosion Control Ordinance".
- H. WAC 51.304: State of Washington Adoption of the Americans with Disabilities Act into the Uniform Building Code.

#### III. Conflict of Standards

In the event of conflict with any of the specifications, the County Engineer shall specify which of the standard specifications will apply.

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# 12.05.710 Construction Plan Requirements for Transportation and Utility Improvements

The applicant shall submit to the County Engineer plans and specifications for street and utility construction for the proposed development. The plans and specifications shall include a vicinity map, a plan and profile, special provisions, and reference to the standard specifications, including the typical sections.

#### I. The Plan

The plan shall include the road alignment at a scale of not less than one (1) inch to fifty (50) feet (where less detail is required, a scale of one (1) inch to one hundred (100) feet may be approved by the County Engineer) showing centerline stationing on all intersecting streets, with bearings on centerlines; curve data on all horizontal curves; right-of-way; relevant topography; existing and proposed utility location; street names in the development and adjoining the development; typical roadway section showing placement of utilities; existing and proposed drainage and water quality appurtenances; sidewalk ramp locations; floodplain and wetland boundaries; signalization, channelization, striping and signing; sufficient topographic data adjacent to the site to identify cut and fill limits from the proposed improvements and such further data as may be required by the County Engineer.

#### II. The Profile

The profile shall show the relevant original ground lines using the same stationing as in the plan, control elevations, grade line showing the proposed grades, vertical curves, all bench marks, the vertical datum, and such further information as may be reasonably required by the County Engineer. For new streets, the relevant original ground lines will show the ground line at centerline at a minimum and also at the edges of the right-of-way if grade differences are significant (or alternatively, surveyed contour lines on the plan view). For existing street, the applicant shall also show the ground line at the edge of pavement or face of curb, whichever is applicable. The profile lines for roads extending to the perimeter of any development shall be extended a minimum of three hundred (300) feet beyond the perimeter to include any change in contours which would affect the profile of the extension of the proposed road. If vertical control is available within one-half mile of the project, the applicant shall use the National Geodetic Vertical Datum of 1929 (1947 adjustment) as a vertical datum. If county horizontal control, based on the North American Datum of 1983 (1991 adjustment), is available within one-half mile of the

project the applicant shall make a tie to the grid bearing and coordinate of the datum.

## III. Required Project Construction Notes

Any required construction notes shall be shown or referenced on the plans

#### IV. Format

The cover sheet of all plans shall include a statement identifying which standard specifications will apply to the project. Plan and profile may be shown on the same sheet with profiles shown on the bottom half of the sheet. Sheets shall measure twenty-two (22) to twenty-four (24) inches in height by thirty-four (34) to thirty-six (36) inches in length with a borderline of two and one-half (2.5) inches on the left side of the length of the sheet and one-half (0.5) inch on remaining sides. When more than two plan sheets are used, an overall development layout shall be submitted showing the relationship of roads and utilities.

- A. A north arrow shall be shown on each plan view sheet of the plans and adjacent to any other drawing which is not oriented the same as other drawings on the sheet.
- B. Character size shall not be smaller than 0.08 of an inch high.
- C. All detail drawings shall be included in the drawings.
- D. A title block shall appear on each sheet of the plan set and shall be placed in the lower right-hand corner of the sheet, across the bottom edge of the sheet or across the right-hand edge of the sheet. The title block shall include the name of the project, the engineering firm, the sheet title and the owner if not shown on the first sheet.

## 12.05.740 Transportation Design specifications

The design criteria set out in Tables 12.05.120-1, 12.05.120-2, 12.05.120-3, 12.05.120-4 and 12.05.120-5, attached to the ordinance codified in this chapter, are adopted as a portion of the Clark County standard specifications. Such criteria are applicable to roads located within and adjacent to a development. These criteria are intended for normal conditions. The County Engineer may require higher standards for unusual site conditions.

## I. Typical Roadway Section.

The typical roadway section shall be as shown on the county standard plans. The roadway section used shall be detailed on the construction plans submitted for each new roadway or improvement to an existing roadway. Any deviation from the "Standard Plans" for typical cross-section will require a modification pursuant to Section 12.05.660.

## II. Required Details.

The typical section shall show the width of right-of-way, width of roadway, type and compacted depth of surfacing and paving materials, and such other dimensions as may be necessary or required. The location and width of sidewalks, walkways, curbs or curb and gutter shall also be shown, where applicable.

#### III. Surfacing—Depth Determination.

The depth of surfacing and paving materials shall be determined from the standard plans. The depth to be used shall be determined from the functional use classification of the road to be improved and the AASHTO soil classification as shown in the *Soil Survey of Clark County*, Washington, published by the U.S. Department of Agriculture, Soil Conservation Service. In the case where the applicant wishes to submit an alternative surfacing and paving depth design, the applicant shall provide a design to support the proposed depths. The County Engineer shall establish and maintain criteria and methodologies for performing alternative surfacing and pavement depth design, including verified soil engineering characteristics and traffic loadings for approving such alternative designs.

#### IV. Alternate Surface Treatment.

Alternate surface treatments may only be used upon approval of the County Engineer. The applicant shall supply the County Engineer with specifications for materials and application rates as part of the approval.

## V. Steeper Grades.

Roads constructed in grades steeper than fifteen (15) percent shall be constructed with Portland cement concrete, with grooved surfacing. Rural roads are exempted from this requirement.

#### VI. Grades and Drainage

Access road drainage facilities shall be designed to meet the requirements of the county stormwater drainage and erosion control ordinances, and be sufficient to prevent water damage or impairment from normal rain flow or surface water. Erosion control shall be provided during construction to maintain the roadways such that mud and debris are minimized consistent with such ordinances.

Drainage details and street profile grades shall be shown on the construction plans. In the Urban and Urban Reserve areas, the centerline profile street grades shall not be less than one percent unless an integral curb and gutter section is used in which case the minimum grade shall not be less than three-tenths percent. If any grading or filling to lots or other areas outside the streets is to be done which exceeds those amounts specified in Chapter 70, Uniform Building Code, an overall grading plan shall be submitted as a part of the plans.

In rural area, driveway culverts must be a minimum of twelve (12) inches. Culverts larger than the minimum will be sized by identifying the size of culverts upstream.

## VII. Passing Sight Distance.

Arterial roads shall have minimum passing sight distance, as measured from a height of three and one half feet (3.5) feet to an object of four and one quarter (4.25) feet in height, in accordance with Table 12.05.740.VII. The effect of grades on the sight distances shall be governed by the criteria stated in the American Association of State Highway and Transportation Officials' (AASHTO) reference "A Policy on Geometric Design of Rural Highway's (1990).

Table 12.05.740.VII
Passing Sight Distance

Design Speed (mph)	Minimum Passing Distance (feet)
30	1100
35	1300
40	1500
45	1650
50	1800

## VIII. Signing

B.

## A. General Requirement

on a time and materials basis.

Private Road Signs

Private road signs with street designations shall be provided by the developer at the intersection of private roads with private and public roads. Such signs shall meet the specifications shown on the typical drawing and, in the case of intersections with public roads, shall either be located within the public right-of-way or within a separate maintenance easement. Road signs shall be included in the private road maintenance agreement.

The developer shall reimburse the County for the installation of all

necessary street name signs, warning signs and regulatory signs. The

cost of all signs, barricades, and pavement markings will be determined

## 12.05.770 Transportation Construction Specification

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#### l. General

 No construction shall begin until plans have been approved by the County, except that rough grading operations may proceed before the plans are approved under the following conditions:

- A. The grading plan is submitted separately along with an application for a grading permit, if required;
- B. The grading plan is in conformance with the approved preliminary plat or other development approval;
- C. The grading plan will not be in conflict with the street and drainage plans; and
- D. Any required grading permit is issued. No utility installation is allowed under grading permits.

The department shall be notified not less than forty-eight (48) hours prior to the start of any phase of construction.

## II. Subgrade

The subgrade must be inspected and approved by the County Engineer prior to application of the crushed surfacing material.

#### III. Crushed Surfacing Materials

The standard specifications shall apply to all materials and workmanship. Compaction of subgrade and surfacing materials shall be in accordance with the WSDOT Standard Specifications. The subgrade and crushed surfacing materials shall be compacted to ninety-five percent (95%) of the maximum density for the material. The base course shall be approved prior to application of top course, and top course shall be approved prior to placement of pavement. Approval shall be by the County Engineer.

#### IV. Paving

The standard specifications shall apply to all materials and workmanship. The department shall be notified not less than forty-eight (48) hours in advance of the application of any type of paving and, in accordance with the standard specifications, the County Engineer may stop or delay paving operations when the weather or other conditions indicate that suitable results may not be obtained.

#### V. Trench Backfill

#### A. Trench Backfill for Construction.

All trench backfill within the road improvement area shall be imported gravel backfill meeting the material specification of the WSDOT Standard Specifications Section 9-03.19.. Native soils may be utilized upon the County Engineer's approval if testing shows the material is classified as A-1 or A-3 by AASHTO. Trench backfill shall be compacted within the roadway prism to ninety-five (95) percent of maximum density as determined by AASHTO T-99. Areas within the right-of-way and outside the roadway prism may be compacted to ninety (90) percent of AASHTO T-99. The trench backfill shall be placed in conformance with the Standard Plans 12.05.710.

## B. Trench Backfill for Utility

Application of this specification is required on Principal and Minor Arterials, Urban Collectors, Rural Major and Minor Collectors, and any roadway that has been reconstructed or overlayed within two (2) years.

Utility trenches in existing roadways and which run transverse to the direction of vehicle travel shall be constructed in accordance with the requirements of the Utility Cut Permit, issued from Clark County's Operations Division. In addition to the requirements listed in subsection 12.05.770.V.A above, tranverse utility cuts will be required to have the top three (3) feet of trench backfill constructed with "Controlled Density Fill" meeting the requirements of the Standard Specification section 2-09.3.(1)E. Refer to Appendix F for examples.

## VI. Temporary and Permanent Barricades <sup>1</sup>

Temporary and permanent barricades shall conform to the standards described in Section 6C-8 of the Manual on Uniform Traffic Control Devices (MUTCD) .

- A. Type I or Type II barricades may be used when traffic is maintained through the area being constructed/reconstructed.
- B. Type III barricades may be used when roadways and/or proposed future roadways are closed to traffic. Type III barricades may extend completely across roadway (as a fence) or from curb to curb. Where provision must be made for access of equipment and authorized vehicles, the Type III barricades may be provided with movable sections that can be closed when work is not in progress, or with indirect openings that will discourage public entry. When job site access is provided through the Type I barricades, the developer/contractor shall assure proper closure at the end of each working day.
- C. In the general case, Type III permanent barricades shall be installed to close arterials or other through streets hazardous to traffic. They shall also be used to close off lanes where tapers are not sufficiently delineated.
- D. Type III barricades shall be used at the end of a local access street terminating abruptly without cul-de-sac bulb or on temporarily stubbed off streets. Each such barricade shall be used together with an end-ofroad marker.
- E. Barricades on dead-end streets which may be extended in the future will have a sign placed upon them, as approved by the County Engineer,

<sup>&</sup>lt;sup>1</sup>For Street Extensions, including subtitle Connection With Adjacent Areas, Right-of-way for Street Extension, Provision for Future Extension, and Use of Temporary Turnaround, see Section 12.05.260 CCC.

which gives notice that the road will be extended in the future, and will give a telephone number for interested persons to call to receive more information.

## VII. Private Road Maintenance Agreement

The county will not maintain roadways, signs or drainage improvements on private roads. All private roads shall be maintained by the owners of the property served by them and kept in good repair at all times. A private maintenance covenant recorded with the County Auditor will be required for any private road serving more than three (3) lots. The covenant will set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies for noncompliance with the terms of the agreement, right of use easements, and other considerations. The covenant shall be submitted to the County Engineer or his designee for approval prior to recording. The covenants, which may be in the form set forth in Appendix H, shall include the following terms:

- A. The covenant shall establish minimum annual assessments in an amount adequate to defray costs of ordinary maintenance and procedures for approval of additional needed assessments.
- B. The covenant shall include a periodic maintenance schedule.
- C. The covenants for maintenance shall be enforceable by any property owner served by the road.
- D. The means shall be established for assessing maintenance and repair costs equitably to property owners served by the private road.
- E. The covenants shall run with the land.
- F. "Maintenance" shall include, but not be limited to, road surfacing, shoulders, gates, signs, storm drainage facilities and vegetation control.

#### G. Private Road Inspection

Private roads will be subject to the same inspection schedule as public roads.

#### H. Developer Maintenance Obligation

The developer of a residential plat or short plat shall be responsible to insure the maintenance of the private road for a period of two (2) years from the date of recording of the plat or short plat. Thereafter, the developer's maintenance responsibility will depend upon the number of lots under the developer's continuing ownership, as stated in the recorded maintenance agreement.

#### VIII. Construction of Sidewalks

A. Construction Standards.

Materials and construction of sidewalks and accessways shall conform to the standard plans for the type of adjacent road. Sidewalks shall be surfaced with Portland cement concrete. Accessways may be surfaced with Portland cement concrete or two (2) inches of asphaltic concrete pavement on four (4) inches of compacted crushed surfacing.

## B. Construction Timing.

Unless earlier installation is required by the County Engineer, required sidewalks and accessways shall be installed in conjunction with either the construction of an adjacent road or the construction of a building structure. That portion of any required sidewalks or accessways adjacent to any lot shall be constructed prior to issuance of a certificate of occupancy for a building constructed on such lot.

#### C. Construction Bond.

If the County Engineer determines that construction is not feasible when a building is ready for occupancy, a construction bond or other security acceptable to the County Engineer shall be posted guaranteeing the construction of required sidewalks and accessways. The amount of such construction bond, or other security, shall be set by the County Engineer based upon the estimated cost of installation at the time when the sidewalk or accessway is to be constructed.

#### D. **Procedure**.

Except as modified herein, the reviews, approval, inspection and acceptance procedures established elsewhere in this chapter shall similarly apply to sidewalks and accessways.

Note: For Sidewalks requirements, see Section 12.05.400.(I). For sidewalks detailed specifications, see Drawings 34 through 38 in Appendix D.

## IX. Landscaping Installation<sup>1</sup>

#### A. Acceptable horticultural practices

Accepted horticultural practices will be followed to insure successful establishment of the plant materials.

#### B. Critical locations

Trees with a mature height greater than 25 feet shall not be sited under or adjacent to utility lines or overhead structures. Landscaping used

<sup>&</sup>lt;sup>1</sup> For Landscaping Plan, see Section 12.05.600. For Planting Materials and their placement, see Appendix G

shall not compromise sight distance requirements as defined in Section 12.05.250. Hardscape may be allowed for a portion of the area to be landscaped per Table 12.05.400 I.A.

#### C. Postponement of Installation Due to Weather Conditions

In order to install landscaping during the spring or fall planting season, the County Engineer will allow postponement of the landscaping due to weather conditions, with appropriate financial guarantees. In such cases, the two-year maintenance period will commence following installation.

#### D. Period of Maintenance

The applicant shall maintain landscaping and irrigation systems (if any) for a minimum of two years after provisional acceptance of the adjacent roadway. If 90% of all shrubs and 100% of all trees do not survive, then the diseased, dying or dead plant material shall be replaced by the applicant during the two year maintenance period. Any plant materials replaced shall be maintained for an additional two years.

#### E. County's Role

Alternately, the County may accept a fee in lieu of improvements and complete the landscaping itself. The fee shall be based upon the approved landscape plan, and will be in an amount sufficient to cover the cost of installing the landscaping and maintaining it for two years, including administrative costs.

#### X. Construction Guarantee

In Lieu of the completion of any required public improvements prior to approval of a final plat, short plat or the issuance of building permits, the County Engineer may accept a bond, in amount and with satisfactory surety and conditions, or other secure method as the County Engineer may require, providing for and securing to Clark County the actual construction and installation of such improvements within a period specified by the County Engineer and specified in the bond or other agreement, and to be enforced by the Director by appropriate legal and equitable remedies. The amount of bond or escrow shall be 100 percent of the estimated cost as determined by the County Engineer for the County to construct the improvement.

## XI. Issuance of Building Permits

Building permits and certificates of occupancy may be issued once the public improvements are substantially completed. In order for a model home/temporary sales office to be constructed, a building permit for one dwelling unit may be issued prior to substantial completion of the public improvements.

Building permits, other than for Group R-Division 3, may be issued prior to substantial completion if the County Engineer finds that the issuance and

subsequent building construction does not interfere with emergency accessibility or the completion of public improvements. In this case, certificates of occupancy will not be issued until the public improvements are substantially completed.

#### XII. Record Drawing

The applicant shall submit a reproducible set of plans for all public improvements showing all construction changes, such as location of culverts, alignment and grade changes, added and deleted items, location of utilities, water valves, sewer connections, etc. The record drawings shall be prepared and stamped by a licensed engineer or surveyor, and submitted prior to acceptance of any improvements for provisional maintenance by the County.

## XIII. Acceptance by County

Roads, drainage, landscaping, irrigation, and any other required right-of-way construction may be accepted for provisional maintenance by Clark County upon receipt of a workmanship and materials bond (or other secure method) in the amount of ten percent (10%) of the construction cost and the recommendation of the County Engineer. Final acceptance will not be made for two (2) years from the date of provisional acceptance and the applicant must repair any failure within the two (2) year period. The applicant may request inspection of the constructed facilities for release of the said workmanship and materials bond (or other secure method) at the end of the two (2) year provisional maintenance period.

## XIV. Construction Revisions and Modifications to Construction Specifications

Revisions made during construction drawing review or during actual construction which do not conflict with conditions of development approval or the road standards may be authorized by the County Engineer. Written consent between the County Engineer and the applicant is required. The applicant will be responsible for informing the construction contractor of all approved changes.

In unique circumstances the County Engineer will consider requests for variation from the above listed construction specifications. It shall be the developer's responsibility to furnish supporting documentation as required (by the County Engineer) to substantiate the requested variation.